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ABSTRACT

General education concepts and the operational aspects of the proposed environmental education program of the Bureau of Sport Fisheries and Wildlife, U.S. Department of the Interior, are related in this pamphlet. The first part defines the terms environmental education and conservation education and the two types of program to be undertaken, environmental education and interpretive. The second part discusses the joint responsibilities of the program for both the Bureau and the teacher or school system. Functional and divisional responsibilities as well as training and staff needs are outlined for the Bureau. The role of the professional educator indicates the necessity for teacher involvement in pre- and post-trip preparation and follow-up in addition to coordinating the actual study or investigation. (BL)

THE ENVIRONMENTAL EDUCATION PHILOSOPHY
AND PROGRAM FOR
THE BUREAU OF SPORT FISHERIES AND WILDLIFE

GENERAL EDUCATIONAL CONCEPTS

I. Environmental Education vs. Conservation Education

To better understand the proposals of the Bureau of Sport Fisheries and Wildlife relevant to environmental education, it is first necessary to define terms.

A. Environmental Education

"Environmental Education," as defined by the Environmental Education Act of 1970, is the "educational process dealing with man's relationship with his natural and manmade surroundings...." It is curriculum spanning and multidisciplinary, dealing with the interrelationships of all things. It is aimed at developing an informed citizenry, motivated to recognize problems and to take action. (Report of the 17th National Conservation Education Association Conference.)

B. Conservation Education

"Conservation Education" is the study of man's use of the natural environment. It is science centered and resource oriented, dealing with the development, management, preservation and renewal of natural resources for the benefit of man. Its orientation is thus more restrictive than that of environmental education. (Ibid.)

The Bureau of Sport Fisheries and Wildlife seeks, through its education programs, to expand man's understanding and appreciation of wildlife, wildlands ecology, and man's interrelationship with the natural environment. The ultimate objective is to enable people to think reasonably and understandingly about their environment, to enable them to see themselves as part of nature, and to make intelligent decisions concerning environmental issues.

Our objectives take on both the natural resource orientation of conservation education and the integrated, action-seeking objectives of environmental education.

Since environmental education is the more inclusive term, we will henceforth refer to the Bureau's formal education programs as environmental education programs and will delete the term conservation education from our vocabulary.

II. Environmental Education vs. Interpretation

The Bureau envisions two types of environmental education programs with essentially similar goals, but with differences of technique and audience. For discussion and budgetary purposes, these programs will be referred to as separate and distinct from each other despite similar objectives and philosophical overlap.

A. Environmental Education

We will define environmental education as school or educational group-associated for grades kindergarten

through 12th grade, teacher or leader-conducted, and scientific studies and environmentally associated activities for adults, which may or may not utilize Bureau lands, but which employ the discovery/involvement approach to teaching. Emphasis is on the teaching technique or approach to problem solving or fact finding. Young people are naturally process oriented, seeking out activities which they can physically manipulate, where they can practice a skill, or where their interaction can influence an outcome. The more senses we use, the more we are willing to get our feet wet and our hands dirty, the better we will remember; the more we are presented with problems, the more we are likely to think about solutions. Environmental education, as we propose it, should be a style or technique of teaching, conducted by professionals, in which students participate in environmental learning situations where they are actively involved in problem solving situations.

B. Interpretation

Interpretive education programs are usually conducted by The Bureau itself and are directed to the casual visitor or general public (which may or may not include students or other groups). In the words of Freeman Tilden, interpretation is "an education activity which aims to reveal

meanings and relationships through the use of original objects, by first hand experience, and by illustrative media...." A variety of techniques may be used for interpretation including signs, leaflets, exhibits, lectures, demonstrations, tours, slides or films.

Interpretive programs are usually more recreation oriented than school associated environmental education programs, and although they may be informative and provocative, they often lack the organization, involvement and discipline of teacher-conducted environmental education programs. Participation is usually optional.

Interpretive programs have been conducted by the Bureau for some time. Environmental education programs, herein defined, are relatively new (but experimentation in region 3 has shown them to be highly successful). This is not to say that there has been no demand for Bureau lands and personnel by school classes and other groups. On the contrary, demand and use has often been more than we can handle. There are numerous requests for movies, bus tours, or lectures on "conservation" etc.. Occasionally a subject is selected that fits into the curriculum, but more often the request is for "anything" and may serve merely as a break from the routine or a form of entertainment. This type of program is probably of some value to students. Nevertheless, we feel that our lands and personnel can be better utilized with the type of environmental education outlined herein.

OPERATIONAL ASPECTS OF THE PROPOSED BUREAU
ENVIRONMENTAL EDUCATION PROGRAM

The proposed environmental education program is a joint responsibility of both the Bureau and the teacher or school system.

I. Role of the Bureau in Environmental Education

A. Functional and Divisional Responsibilities

A primary role of the Bureau in environmental education would be, when needed, to provide the land base, the "outdoor classroom" or "environmental study area" (ESA). (Facilities for ESA's need only include access and parking, drinking water, toilets, and some sort of shelter for use when needed.) Bureau areas which would be primarily involved with this aspect of environmental education would be the land managing units, namely wildlife refuges, fish hatcheries, and possibly research centers. The functions of Bureau personnel might include the selection of appropriate ESA sites; assistance in the development of study guides with suggested activities to aid teachers in using the area; coordinating the use of the study area; or serving as a consultant to the teacher. Bureau personnel would seldom have the training, expertise or time to do the actual teaching. Teaching is a job best suited to the professional teacher. However, only a small percentage of teachers are oriented toward our concept of environmental education. Thus teachers, and more importantly,

the educational systems in which they operate, will often need to be oriented toward, and sold on, our concept of environmental education. Bureau personnel will frequently have to go through community education channels to stimulate this interest. Colleges may also be encouraged to give courses in environmental education techniques for teachers; and in-service workshops should be encouraged to expose teachers to the types of programs we are advocating. Perhaps the Division of Wildlife Services, through their extension work, would be suited to work with school systems to encourage curriculum development for environmental and natural resource education. River Basins personnel might become involved by making school classes and interest groups aware of unhealthy environmental situations or proposals and encouraging investigations and actions to stop these activities. Depending on the approach used and the type of involvement, such activity could be considered either environmental education or interpretation.

B. Training and Staffing Needs

Before a full scale environmental education program can be developed, orientation as to philosophy and approach is needed for Bureau employees, preferably through first hand environmental education involvement via workshops. In view of current budget restraints, workshops do not appear

possible. As an interim step, we need to expand what we have learned from our region 3 pilot program to all regions. Although orientation meetings would be more desirable, we recommend the Refuge Managers' Guide, Teachers' Guide and activity booklets developed from region 3's efforts be distributed to the other regions. These and new materials now being developed by region 3 could be studied and utilized by any resourceful and motivated refuge manager. Eventually environmental education coordinators would be desirable on individual high-use stations, or at least on an area or regional basis coordinating for several stations or areas. Public use personnel or other interested Bureau persons could also function in environmental education coordination, as could local educators on a consultant basis. Central and regional Bureau coordination of environmental educational programs would most typically fall under the Office of Conservation Education (Public Affairs), although it could be considered under the Division of Wildlife Refuges or some other division.

II. Role of the Professional Educator

Besides coordinating the actual study or investigation, teacher involvement is critical in pre- and post-trip preparation and follow-up. The most meaningful activities are well planned in advance. Students know what to expect and are more efficient. Afterwards, the results can be analyzed, discussed, and incorporated

into the total curriculum. Total environmental education involvement will also require that the teacher supplement natural resource environmental studies (whether conducted on or off of Bureau lands) with other environmental investigations such as urban growth problems, waste disposal, etc.. The development of an environmental ethic does not come overnight with a one-time experience. It is the result of an accumulation of experiences over time. Teacher interest and participation is important for the coordination and integration of such experiences.

RESULTS

Through an accumulation of environmentally oriented experiences, the student should come to see patterns and cause-effect relationships of which he is a part. As decision makers of the future, it is important that young people develop an environmental ethic, an ecological awareness and sensitivity, so that they can make the right decisions concerning our Nation's limited supply of natural resources, and thus help insure survival in a quality environment.